

### **REMARKS**

Claims 1-13 are pending in the present application. Claims 1-3 and 6-13 are rejected. Claim 1 is herein amended. No new matter has been presented.

#### **Claim Rejections - 35 U.S.C. §103**

Claims 1, 3, 6-11 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sakaya et al. (U.S. 5,942,298) in view of Gregorich et al. (Can. J Soil Sci 68: 395-403) with Encyclopedia Britannica (<http://www.britannica.com/EBchecked/topic/288836/inorganic-soil>) and Easton et al. (Trans. Faraday. Soc. 1952, 48, 796-801) used for evidentiary value.

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sakaya et al. (U.S. 5,942,298) in view of Gregorich et al. (Can. J Soil Sci 68: 395-403) in further view of Uchida et al. (U.S. 6,569,533).

In regard to Applicant's arguments that Gregorich et al. teach away from using hydrogen peroxide, the Examiner asserts that (1) Gregorich et al. teach that hydrogen peroxide was not effective destroying the completely organic matter, and therefore if there were no organic matter the hydrogen peroxide would be effective. (2) Gregorich et al. teach that microaggregates consist of clay minerals and humified organic material (page 396), Gregorich et al. further teach that hydrogen peroxide is effective in dispersing silt sized aggregates, which would include both clay the clay minerals and the organic material. (3) The fact that it is hypothesized that the reason hydrogen peroxide is not as effective with sand sized microaggregates is due to the failure of peroxide to destroy organic matter within the aggregates does not mean that the hydrogen

peroxide, which was effective in dispersing the clay materials in the silt sized aggregates, has lost its effectiveness at the sand sized aggregates level.

Applicants maintain disagreement with the Examiners reasoning that

“Gregorich et al. teach that hydrogen peroxide was not as effective destroying the completely organic matter, and therefore if there were no organic matter, the hydrogen peroxide would be effective.”

Applicants disagree that Gregorich provides a suggestion to use its peroxide in a process that does not require destruction of organic matter, or that an organic-matter destroying agent could be “effective” in the absence of organic matter.

Applicants further herein amend claim 1 to clarify the invention. Thereafter, Applicants submit that the amendments overcome the rejection, in addition to the traversal noted above and previously, because the claimed invention is not clearly taught or suggested by the cited references, alone or in combination.

The amended claim recites a gas barrier coating composition comprising: an inorganic layered compound dispersion (c), wherein an inorganic layered compound (b) is dispersed using a peroxide (a) in a dispersion medium, and a gas barrier resin (d), and wherein a mixture containing the peroxide (a) and inorganic layered compound (b) in a specific mixing ratio is dispersion treated in a high speed stirring apparatus and/or a high pressure dispersing apparatus, and wherein the inorganic layered compound (b) is montmorillonite.

In the present invention, it is important to cleave an inorganic layered compound to a thinner layer level to provide high corrosion resistance and gas barrier properties. For that purpose, montmorillonite is used as the inorganic layered compound, and it is dispersed using a specific amount of peroxide and a high speed stirring apparatus.

Sakaya et al. discloses a gas barrier coating composition containing an inorganic layered compound (ex. "Kunipia F", montmorillonite) and a gas barrier resin (ex. PVA), as noted in column 10, line 20 to 26 of Sakaya et al. However, Sakaya et al. does not disclose that an inorganic layered compound is dispersed using peroxide. In fact, Sakaya et al. corresponds to Comparative Example 1 of the present invention. It is obvious that examples of the present invention are quite superior compared with the Comparative Example as shown in Table 1 in a description.

Gregorich et al. discloses that soil containing organic matters and clays is dispersed using a peroxide to get sand size aggregates, silt size aggregate and clay size aggregates. However, Gregorich et al. also does not disclose that especially montmorillonite is dispersed using a peroxide.

There is no motivation to combine Sakaya et al. with Gregorich et al. Applicants note that Encyclopedia Britannica discloses that the bulk of inorganic soil comprises inorganic or mineral fraction. As mentioned above, Gregorich intends to soil containing organic matters. Gregorich et al. uses peroxide only to destroy the organic matters in soil, to facilitate dispersion of sand, silt and clay in soil solution. Gregorich et al. does not teach or suggest that peroxide treatment is applied to any non-organic-containing inorganic soil, as in Encyclopedia Britannica.

There is thus no motivation to combine Gregorich with Encyclopedia Britannica.

Therefore the amended invention is not obvious from and Sakaya, Gregorich and Encyclopedia Britannica.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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